

A REPORT UPON THE AQUATIC AND SEMI-AQUATIC HEMIP-
 TERA OF THE MULFORD BIOLOGICAL EXPEDITION
 TO BOLIVIA, SOUTH-AMERICA, 1921-22.

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 Lawrence.*

The water bugs taken by William M. Mann on the above expedition comprise perhaps forty or fifty specimens representing ten species, some of which are undescribed.

HYDROMETRIDAE.

This family is represented by one species and this one is strikingly distinct both as to general color pattern and structure from any other *Hydrometra* known to me.

Hydrometra mulfordi, sp. new.

Size.—Length, 12.5 mm. Width across the eyes, 0.7 mm. Width across the abdomen, 1.1 mm.

Color.—Yellowish-brown. The mottled effect on the abdomen due to longitudinal, lateral streaks of dark brown which are narrower on the caudal margin of each segment and to the fact that the caudal half of each segment of the connexivum is smoky. This mottling is plainly visible to the unaided eye and sets this species apart from all others known. A lateral, dark brown stripe extends from the base of the antenna to the spine at the distal margin of the sixth abdominal segment. This stripe on the sides of the abdomen below the connexivum appears to arise behind the metacoxae due to the obscurity of the lateral band on the thorax.

Structural characteristics.—The head is provided with a well marked, median ventral groove beginning at the front margin of the eyes and extending nearly to the rear margin of the head. The antecular portion is to the postocular portion as twenty-nine is to thirteen. The formula would be AO:PO::29:13. The rostrum surpasses the eyes by eight-thirteenths of the postocular length. The antennal segments have the following relation beginning with the basal one: 7:18:60:18. The length of the pronotum is to that of the metanotum as four is to seven. The distance between the first and second coxae is to that between the second and third coxae as three is to seven. The anterior femora surpass the head by about one-fifth their own length while the hind femora surpass the tip of the abdomen by about one-sixth their length. The body is clothed with a silvery pubescence which is longer on the thorax than elsewhere and somewhat obscures the thoracic pitting. There are no pits on the acetabula. Two distinct spines on the caudal margin of the sixth abdominal segment in these females contribute a distinctive character.

Described from six females bearing the label, "Huachi Rio Beni, Boliv. W. M. Mann, Aug., Mulford Biol. Exp., 1921-22." Holotype and allotype in the United States National Museum.

GERRIDAE.

A single male specimen was taken December, 1921, by W. M. Mann at Rurrenabaque, Beni, Bolivia. This specimen runs to *Liunogonus hyalinus* (Fabr.). The color markings and part of the structural details fit Champion's description. I find it difficult to understand the statement which he makes about the antennae: "Joint 1 slightly stouter, 1 and 3 subequal in length, 2 a little shorter than 1, 3 shorter than 2." In the specimen before me the segment 1 is plainly longer than any of the others. The first genital segment has ventrally a cone shaped elevation on its caudal half and the middle of the rear margin is provided with a curved hoop darkened anteriorly and paralleling the conate elevation.

SALDIDAE.

This family is represented by a single specimen, a male of *S. ventralis* Stal, Covendo, Bolivia, W. M. Mann. This insect fits very well Champion's figure of the species in his "Biologica Centrali-Americana."

OCHTERIDAE.

The three specimens of this family are all males and belong to two species, neither of which can be reconciled with the descriptions of any known species in the literature.

Ochterus brunneus, sp. new.

Size.—Length, 4.8 mm. Width across head, 1.4 mm. Greatest width, 2.5 mm.

Color.—The general color impression, brown. Head, black above. Disc of pronotum, scutellum and membrane of hemelytra, smoky-black with flecks of grey on scutellum and membrane. Lateral margin of pronotum and embolium, yellowish. Remainder of dorsal surface, rich brown flecked with bluish-grey. A smoky patch on each corium and bluish-grey figure at median base and tip of scutellum and five imperfectly quadrate spots on hemelytral margin. Entire surface sparsely covered with short golden hairs. Body beneath, dark frosted with grey. Legs and antennae, nearly white.

Structural characteristics.—Anterior tibia of male curved. Vertex of head not carinate. Anterior margin of pronotum narrower than the head. Lateral margins somewhat explanate and divergent. Third and fourth segments of antennae slender, the antennal formula being, 2d:3d:4th::5:11:11. Terminal antennal segment, slightly curved. Distal end of second segment fully twice the diameter of the third. Fourth, slightly thicker than third. The distal end of third segment reaching the lateral margin of the prothorax. Genital capsule of male as shown in figure 3.

Described from two males in the United States National

Museum bearing the label, "Huachi Rio Beni, Boliv. W. M. Mann. Sept. Mulford Biol. Expl. 1921-22."

Ochterus manni, sp. new.

Size.—Length, 4.1 mm. Width across head, 1.2 mm. Greatest width, 2 mm.

Color.—Color markings not strikingly distinct. The pattern composed of the usual mottling of bluish-grey on black. Lateral and rear margin of pronotum and lateral margin of hemelytra, yellowish.

Structural characteristics.—Anterior tibia of male curved. Antennal formula is as follows: 2d:3d:4th::5:9:9. Distal end of third antennal segment reaching the lateral margin of the pronotum. Genital capsule as shown in figure 1.

Comparative notes.—This species does not have a distinctive color as does *Ochterus brunneus* described above. It is much smaller and not marked with brown as in *Ochterus americanus* Uhler. It is about the size of some males of *Ochterus banksi* Barber, but the anterior lateral margins of pronotum are less expanded and the third and fourth segments of antennae are longer and more slender. It can not be any described species because it fails to agree in size, shape or color pattern with the species described in Central and South America.

Described from a single male in the United States National Museum bearing the following label: "Huachi Rio Beni, Boliv. W. M. Mann. Sept. Mulford Biol. Expl. 1921-22."

CORIXIDAE.

Two species of *Tenagobia* represent this family. *Tenagobia selecta* (White) is represented by two dozen specimens labeled "Ivon Beni, Bolivia. W. M. Mann, February." All the individuals of this series appear to have fully developed wings. I have, however, a series from the Amazon region, many of which lack entirely the second pair of wings.

Tenagobia pulchra, sp. new.

Size.—Length, 2.2 mm. Width of head 0.8 mm.

Color.—Greyish-yellow. Hemelytra with brownish irrorations, the margin bearing two smoky-brown maculations. The scutellum, orange with median longitudinal stripe and tip greyish-yellow. Venter, whitish.

Structural characteristics.—Synthlipsis broader than an eye. Head comparatively short. The relation of the lengths of the head, pronotum and scutellum is as 4:6:10. Wings are present. The distinctive characters of the male are shown in the accompanying plate. (See figures 5, 6 and 8.)

Described from a series bearing the label, "At Mouth of Rio Mapiri, Sept., Rio Beni, Boliv. W. M. Mann. Mulford Biol. Exp. 1921-22."

BELOSTOMATIDAE.

This family is represented by four specimens apparently belonging to three species, but in the present state of our knowledge of this family I do not care to venture names for them.

EXPLANATION OF PLATE.

- Fig. 1. Genital capsule of male of *Ochterus manni* sp. new.
 Fig. 2. Pala of male of *Tenegobia selecta* (White).¹
 Fig. 3. Genital capsule of male of *Ochterus brunneus* sp. new.
 Fig. 4. Right clasper of male of *Tenegobia selecta* (White).
 Fig. 5. Pala of male of *Tenegobia pulchra* sp. new.
 Fig. 6. Dorsal view of abdomen of male of *Tenegobia pulchra* sp. new.
 Fig. 7. Dorsal view of abdomen of male of *Tenegobia selecta* (White).
 Fig. 8. Left and right claspers of male of *Tenegobia pulchra* sp. new.
 Fig. 9. Left side view of male genital capsule of *Tenegobia selecta* (White).

RESULTS OF A DAY'S WORK.

By W. SCHAUS, Bureau of Entomology, Department of Agriculture.

Early in August, at the invitation of Colonel Wirt Robinson, I spent a day with him at Wingina, Virginia, and selected a large number of Lepidoptera from his collection for the National Museum. Among the number were perfect specimens of *Papilio homerus* Fabr., ♂ and ♀; *P. thersites* Fabr., the male new to the collection; *P. bonhottei* Sharpe and *P. homothoas* Roths. and Jord.; a new Pierid described below; a fine melanic variety of *Argynnis aphrodite* Fabr.; also *Victorina steneles* Linn., form *stygiana* Schs. taken in Jamaica and agreeing perfectly with the type described from Costa Rica. There were many butterflies from South America, India, and the Philippine Islands, as well as a large number from the Balkans. Among the moths, special mention must be made of the rare *Sphinx frankii* Neum., and a new form of *Protoparce quinque-maculata* Haw., which I am describing. I was glad to obtain a perfect male and female of *Teinoletis simoenta* Guen., taken in Jamaica.

Many thanks are due Colonel Robinson for his great generosity.

¹Note that the modified claw lies in a cavity in the outside of the pala in the male. In figure 5 this claw has been extended.